

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for reducing noise in a voice signal, the method comprising ~~the steps of:~~

~~(i)~~ (a) processing a compressed digital signal representative of the voice signal including a speech component and a noise component, said processing comprising applying linear prediction coding (LPC) analysis to said digital signal thereby obtaining a compressed digital signal representative of said voice signal; and

~~(ii)~~ (b) processing the compressed digital signal for determining a power spectrum of the noise component, thereby enabling to be subtracted the noise component from the compressed digital signal.

2. (Currently Amended) The method according to Claim 1, wherein said compressed digital signal is based on a set of ~~linear prediction coding (LPC) coefficients and a residual signal, and is obtained by applying an LPC analysis to the voice signal,~~ said processing comprising parameterization of the residual signal.

3. (Currently Amended) The method according to Claim 2, wherein the processing of the compressed digital signal comprises ~~the steps of~~:

- carrying out said determining of thea power spectrum of the noise component of said compressed digital signal during a non-speech activity, and calculating its average value;
  - calculating a power spectrum estimator of the compressed digital signal with a reduced noise component;
  - determining an autocorrelation function of the compressed digital signal with the reduced noise component;
- and
- determining a set of modified LPC coefficients from the autocorrelation function.

4. (Currently Amended) A method for processing a voice signal to reduce a noise therefrom, the method comprising ~~the steps of~~:

- (a) providing a digital signal representative of said voice signal including a speech component and a noise component;
- (b) applying linear prediction coding (LPC) analysis to the digital signal, thereby obtaining a compressed digital signal representative of said voice signal, wherein

said compressed digital signal is based on a set of LPC coefficients and a residual signal;

(c) determining a power spectrum of the noise component during a non-speech activity, and calculating its average value;

(d) calculating a power spectrum estimator of the compressed digital signal with reduced noise component;

(e) determining an autocorrelation function of the compressed digital signal with the reduced noise component;  
and

(f) determining modified LPC coefficients representing the speech component with reduced noise spectrum from the autocorrelation function.

5. (Currently Amended) A voice processing unit for use in a voice operated system, the voice processing unit comprising a noise reduction utility interconnected between a voice coding utility and a voice recognition utility; the voice coding utility being configured and operable to process a digital signal representative of an input voice signal, including a speech component and a noise component, by applying linear prediction coding (LPC) analysis to said digital signal thereby obtaining a compressed digital signal representative of said input voice signal, the noise reduction utility being configured and operable for receiving processing

~~a the compressed digital signal, representative of an input voice signal received from the voice coding utility processing it to determine a power spectrum of the noise component, and generating an output compressed digital signal with reduced noise spectrum.~~

6. (Currently Amended) A voice operated system comprising: an input port for receiving an input voice signal,; an analog-to-digital converter for processing the input signal to generate a digital output indicative thereof,; a voice processing utility for processing the digital signal by applying thereto linear prediction coding (LPC) analysis and generating a compressed digital signal, representative of the input voice signal, said compressed digital signal being in the form of a set of LPC coefficients and a residual signal,; a voice processing unit,; a system interface utility,; and a control module, which is interconnected between the voice processing utility and the voice processing unit, and is connected to the system interface to operate it in response to a speech signal,; the voice processing unit comprising:

- a noise reduction utility coupled to the voice processing utility for processing said compressed digital signal to determine a power spectrum of the noise component, and generating an output compressed digital signal with reduced noise spectrum; and

Appln. No. 09/755,131  
Amd. dated October 6, 2004  
Reply to Office Action of April 7, 2004

- a voice recognition utility coupled to the noise reduction utility for processing said output compressed digital signal with reduced noise spectrum.